

OPINION
AND
COMMENT



The Significant Position of Petroleum in World War II

The Transportation Problem in Time of War

The Consumer in the Defense Era

United States Trade with Latin America

Economic History of American Wars

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OPINION AND COMMENT

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This publication of the Bureau of Economic and Business Research of the University of Illinois rests upon the belief that business men of the State will appreciate interpretative comments on current events. Because studied opinions on the significance of current trends are often more thought-provoking in the conduct of business affairs than mere tabulations of data would be, the Bureau supplements its research bulletins by producing *Opinion and Comment* as another type of service to the State.

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The Significant Position of Petroleum in World War II

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THE IMPORTANCE of petroleum to a nation is not to be gauged solely by the demand for gasoline, for fuel oils, or for lubricants. Its importance may be measured by critical needs, special functions, and irreplaceable services more significantly than by quantity of consumption alone. Oil and its products are critical in national economy according to the economic and political characteristics of the nation under consideration. In the United States their dominant use is for automobile transportation; second in quantitative importance is the use of fuel oil for heating. In the nations of Europe, and in the Far East, the use of gasoline for automobile transportation is of only secondary importance. Even before the outbreak of the present war, the uses of oil for military and industrial purposes, for bunker purposes, for truck transportation, and for marine needs were of primary importance. In Norway there was a close relationship between gasoline supply and food supply, for fishing vessels, powered by internal-combustion engines, supplied food from the sea.

The World War has brought into sharp relief the significance of oil in military operations. In this mechanized war, oil and its products lubricate the machinery of armament production, propel naval ves-

sels in surface, submarine, and aerial operations, operate the line-smashing tanks and the airplanes that guide them, and, behind the lines, oil furnishes the transportation power that brings up the vast quantities of material.

In considering the strategic importance of oil in the present struggle, three elements in the world oil picture merit the closest attention. These are: the function of oil in an industrial economy; the geographical location of oil with respect to points of industrial concentration; and the nature of the political units now at war.

In considering the first element, the function of oil in the present industrial economy, including the competition of war, it should be pointed out that petroleum is a late-comer on the industrial scene. Steel was firmly established as the raw material of industry, and coal as the fuel of industry and transportation, when oil came into use as an industrial fuel. The arrival of oil products increased the tempo of industrial operation and transportation services in peacetime production. In war the use of oil is the foundation of mechanized warfare on land, on the sea, under the sea, and in the air. But let it not be forgotten or overlooked that behind the tanks, the naval craft, the bombers, and the motorized infantry is a coal-

powered industrial machine shaping the materials of war and sustaining the oil-driven units on the fighting line. At the verge of the outbreak of this war, for the latest year of available data the European consumption of energy from coal was nine times that of energy from oil. In this struggle, coal is to oil what the back of the sword is to the cutting edge. Oil-driven tanks, airplanes, submarines, and destroyers cut through the enemy lines on the battle front. The solid back of a coal-powered industrial economy gives strength and firmness to the cutting edge.

The second element to be considered in evaluating petroleum as a strategic material of World War II is that of location. Despite the wide distribution of oil production in 26 countries, and on all continents except Australia, most of the production centers in six districts or regions. These six districts and their approximate 1939 production are as follows:

	<i>Millions of barrels</i>
1. North America (U. S., Mexico, & Canada)...	1,299
2. South America.....	233
3. U.S.S.R.....	220
4. The Middle East.....	118
5. The Far East.....	77
6. Rumania	47

In examining this table it will be found that nearly 80 per cent comes from the Americas and that western Europe is not among the major producers. The Far Eastern output, for which Japan battles, is about half the present output of Illinois. The plain facts of the case, as shown by the statistics, are that all nations in western Europe drew heavily upon the Americas for their

needed petroleum supplies. The U.S.S.R. absorbed practically all of its own output, leaving only the output of Rumania and the Middle East to supplement the supply coming from the Americas.

In a Europe divided by conflict, the oil fields and routes of transportation offer many vulnerable points open to attack. The heaviest attack falls on the Axis powers by reason of the blockading power of the British Navy in the Atlantic and in the eastern Mediterranean. On the other hand, the Axis powers exercise a constant threat on the continued operation of refineries in the Middle Eastern fields. Refineries at Haifa in Palestine and on Bahrain Island in the Persian Gulf have been subjected to bombardment. As the struggle continues, the evident advantage of naval strength, adequately supported by protective as well as combat planes, as a prime necessity in sea power becomes more clearly established. And modern naval power is based upon petroleum—an abundance of low-cost petroleum. The rise of industrialism as the basis of military, political, and economic power and its concomitant needs of raw materials from all quarters of the globe have made the navy a part of the machinery of an industrialized nation. All nations have recognized this. The naval-mindedness of Great Britain and the United States is well known; Japan and Italy, though relatively poor, nevertheless have built up powerful fleets; France had a navy of no small consequence at the outbreak of the war, and Germany was rapidly building up her surface as well as sub-sea

naval craft. And the modern navy runs on oil. In the light of these developments two oil-producing areas in the world have peculiar significance and deserve careful consideration—the Far East and the Middle East.

Let us consider first the Far East. Its annual supply of oil, measured in terms of world output or even compared with that of the United States, is not large. Nevertheless, it is inadequate for a first class military and naval power, and is the only source of oil that Japan can possibly hope to encompass within her zone of control. The overwhelming importance of this field to Japan is tied to Japan's peculiar need for a strong navy. The main dependence of this island empire is, and will always be, on water transportation. Primary raw materials, iron ore or pig iron, and coking coal must be assembled by water transportation. Other important basic commodities, such as cotton, phosphates, ferro-alloys, lead and zinc, tin, and rubber, must be assembled over the same routes. Even though the Japanese succeed in obtaining a foothold in China and establishing many of their industries there, the needs of the homeland are so extensive as to make the sea the paramount highway of cargo movements.

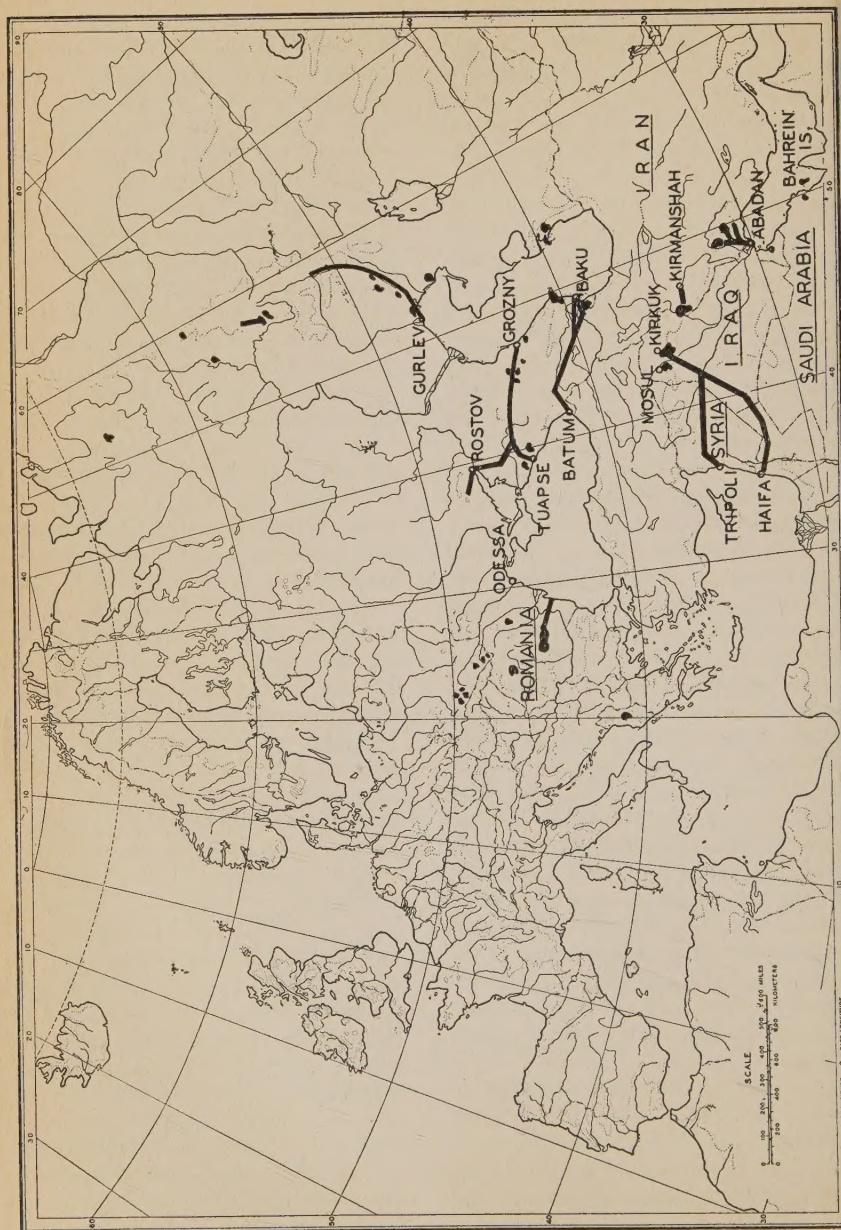
This commercial empire, extending over the vast reaches of the western Pacific, can be made secure only by a strong supporting naval force, and for the operation of this naval force the need for the Far Eastern oil fields is absolute.

We turn now to a consideration of the Middle East. We shall, for the purposes of this discussion, de-

fine this area as including: the U.S.S.R. oil fields in the Caucasus; the iron ore and coal of the Donetz Basin; the oil fields of Iraq, Iran, and Arabia; the Black Sea, the eastern Mediterranean, and connecting water courses.

Within this area lie several oil fields which together constitute one of the potentially great oil resources of the world. Although the reserves of Iraq, Iran, and Arabia have been estimated at 7,000,000,000 barrels, this figure is merely suggestive. Geological prospecting in this region is far from being extensive, and a vast expansion of the known resources may be anticipated. Oil from these fields is now the fuel base of British and allied naval, air, and land operations in the Mediterranean area.

However, in viewing the role of the Near-East oil fields in the day-by-day events of the present struggle, the full industrial possibilities of the region, with its attendant possibilities of military power, may escape attention. In the military operations of this area oil is of paramount importance. The importance of oil rises far above even its wartime significance when it is considered in conjunction with the iron ores of the Krivoi Rog, the coal of the Donetz Basin, and the ferro-alloy metals in Georgia and Turkey. Together these resources supply the foundation materials of a powerful world industrial unit. Climate, soil, topography, configuration of land and water bodies, primary fuel (coal and oil), iron ore, and ferro-alloy resources unite to make this one of the potential industrial power centers of the world. Conflicting inter-



ests of European powers have prevented the acquisition of this region by any one of the large European powers. This factor, and this alone, may have prevented the development here of an industrial power unit comparable in scope with that of the British iron and steel unit or that of the Ruhr-Lorraine region.

Consider the possibilities of the physical resources of the area if it were under unified management. The coal and iron of the Donetz Basin are adequate in quality and quantity to support a major steel-manufacturing industry. To the north lie the rich Ukrainian wheat lands, a potentially vast market for industrial products. Added to this are the smaller but not insignificant markets of the Mediterranean states to the west and the markets of Turkey and the Levant to the east. In the midst of this area is the land-locked expanse of the Black Sea, a warm-water body which can safely shelter a navy against any possible foreign attack. For the operation of such a navy ample resources of low-cost oil are available. In the immediate years to come, we must consider a powerful navy as an essential component of an industrial district or region.

That the German leaders are fully aware of the potentialities of this region there can be no doubt. The importance of sea power is thoroughly appreciated, and the German leaders realize that naval strength must be achieved before their position as a world power can be secure. And only in the Mediterranean and the Black Sea are the physical conditions favorable for the development of a powerful German navy.

The Baltic, aside from its closed winter season, is too far from supplies of petroleum; synthetic oil is much too costly in man-hours for extended naval use. The coastal position of the Low countries is vulnerable to attack. Control of the Black Sea and its connecting water courses would eventually bring with it control of the Mediterranean and Red Sea courses. *Oel and Kohle*, commenting on this area in connection with petroleum shipments, states:

"Under these circumstances naval control of the Mediterranean Sea . . . possesses in part a vital significance for the oil supply of a number of countries. This is true not only of the countries bordering the Mediterranean, but also of a number of countries, lying beyond the Straits of Gibraltar, which receive a part of their petroleum imports by way of the Mediterranean."

In summarizing, these are some of the elements that give oil so strategic a position in the worldwide conflict now raging. Attention has been directed to two areas which are specifically in the forefront today—the Far East and the Middle East.

The former is a rather small oil field—with only about half the output of Illinois—but is amply sufficient for the needs of Japan in attempting to realize her present ambition to dominate the Far Eastern Asiatic and Australasian spheres and link their economic life to her own empire by water transportation under ample naval protection.

The latter area is by far the more significant, and is the prize which Russia and Great Britain are at

present seeking to defend against German attack. In this area, with its productive powers once efficiently mobilized under unified political control, would lie the key for the control of the Mediterranean highway and its adjacent lands, the

passageway to the Far East, and a naval base, impregnable to attack, from which could be controlled the world's most important highways of international trade. Herein lies a most serious threat to the democratic races.

The Transportation Problem in Time of War

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THE WAR and the defense activity preceding our entry into it have radically changed the nature of the transportation problem. For several years, particularly from 1929 to 1940, there seemed to be an excess of transportation facilities. The expansion of highway transportation, inland water transportation, pipe lines, and air transport that occurred after World War I had added greatly to the supply of our transportation services. The depression of the 1930's further aggravated the situation by reducing the volume of goods to be carried. During this period public attention was drawn to a consideration of such problems as the wisdom of further public expenditures for waterways and highways; the alleged unfairness to railroads arising from public provision of highways and waterways; excesses resulting from the intensity of the competitive struggle between railroads and other carriers; railroad financial re-

organization; the possibilities of a more economical organization of the railroad industry through consolidation or through cooperative action among carriers; and, finally, various ways of providing immediate financial relief to railroad companies. All these problems either grew out of the existence of an excess of transportation facilities or were intensified by this condition.

Within a comparatively few months the transportation problem has changed; instead of being concerned with an excess of transportation services we are alarmed by the possibility of a shortage.

The problems created for the transportation system by war arise fundamentally from the unusual burden imposed upon it. This increased burden upon the system results from the necessity for conveying troops and war materials and also from quickened industrial production with its accompanying increase in the demand for the trans-

portation of basic raw materials. The ton-miles of freight carried by the American railroads in 1941 exceeded all previous records, reaching a total of 470 billion ton-miles; yet the proportion of total traffic transported by railroads was probably less than ever before, while the proportion carried by other transportation agencies was greater.

The peculiar transport problems which arise in time of war and which spring from the unusual burden imposed upon the transport system are four in number: (1) the problem of expanding transportation facilities where needed; (2) the problem of obtaining more effective use of existing services; (3) the closely related problem of reducing wastes in transportation which are tolerated during normal times; and (4) the problem of maintaining a reasonable relation between the income and the expenditures of transportation agencies. Each of these problems is considered below with special reference to railroads.

War conditions make the expansion of transportation facilities particularly difficult. The system of priorities and allocations, necessary in time of war, makes it difficult to obtain the materials necessary for such expansion. Already the railroads are concerned over their ability to obtain steel for new equipment and other purposes, and users of motor trucks are alarmed at the decision to stop the production of nonmilitary motor vehicles. Then too, there is opposition by vested interests to the expansion of competing transportation systems. The emergency of war does not entirely silence opposition of this nature.

Railroads have recently fought bitterly to prevent the construction of pipe lines for the transportation of crude oil, petroleum products, and natural gas, although these facilities were demanded in the name of national defense. Nor has railroad opposition to the expansion of waterways ceased with the present emergency. It is undoubtedly true that many proposals for the expansion of transportation facilities are urged in the name of national defense which cannot be justified on this basis. A careful weighing of the importance of particular projects is necessary, but the fact remains that obstructionist tactics of particular groups may prevent needed extension of transport facilities.

Still another obstacle to expansion of the transportation system in time of war is the difficulty of financing. Privately owned transportation units must either have the earnings and credit necessary for private financing, or they must rely on government aid. In World War I, the need for expanding railway service at a time when railroad earnings were low and credit was poor was an important factor in causing the government to take over the railroads. After this step was taken, the government made such capital expenditures for railroads as seemed necessary, paying for those which were primarily for war purposes, and charging the companies for those which would be of permanent benefit to the owners. More than \$1,100,000,000 was spent by the government in capital outlays on the railroads in the period of Federal operation.

The second transportation problem arising from the war is that of getting more services from the existing transportation system. This is in part a substitute for expansion of facilities, but it is also necessary if industrial production is to be speeded up.

Among the obstacles to a more effective use of facilities is congestion of traffic, particularly where transportation "bottlenecks" develop. Overcrowding at such points slows up the movement of traffic and impairs the efficiency with which other parts of the transportation system are utilized. In World War I, particular difficulty was caused by a congestion of traffic at Atlantic ports which paralyzed important parts of the transportation system. The demands and habits of shippers impose other obstacles in the way of efficient utilization. Shippers are not willing to give up the accustomed privileges and services which they have received from the railroads, many of which make for inefficient use of equipment and unnecessarily long hauls. Special demands of government traffic in time of war result in the sidetracking of trains and otherwise interfere with the efficient handling of traffic. Competitive rivalry among railroad companies sometimes prevents the handling of traffic over the most direct routes, and, in other cases, it leads to congestion on certain lines when the traffic might be handled expeditiously by some less congested but competing carrier. Unwillingness of railroads to turn traffic over to water lines, or to motor carriers, may also preclude the most efficient use of existing transportation re-

sources. The legal right of railroads to establish through routes which give the originating carrier a long haul results in much wasteful transportation. Likewise the right of a carrier to bargain with its connections for a large share of the through rate may result in the use of uneconomical routes. Lack of terminal unification, resulting from the jealousy with which a railroad protects the strategic advantages it may possess over other lines in a particular terminal, interferes with the most effective utilization of available facilities.

Closely allied with the problem of obtaining more effective use of existing services is that of eliminating waste in the system as a whole. Many uneconomical practices in the transport industry result from the existence of numerous independent railroads competing vigorously with each other for the patronage of shippers. Although this competition promotes individual operating efficiency, it results in much wasteful duplication of services and facilities and involves unnecessary expense. The difficulties encountered in seeking to eliminate these wastes are practically identical with those met in attempting to obtain more effective use of the present system.

During World War I the government operated the railroads as a single system and introduced many practices which were designed to eliminate waste or to obtain more service from the existing transportation plant. Terminals were unified, equipment was pooled, carriers and locomotives were standardized to some extent; competitive advertising and traffic solicitation were

given up. Traffic was carried over the most economical routes; passenger service was curtailed to increase freight capacity; demurrage rates were increased and made sharply progressive in order to prevent the use of freight cars for storage purposes; less-than-carload freight was accepted only on certain days of the week in order to promote more efficient handling; a system of permits was instituted, and permits to ship freight were not issued unless the consignee was prepared to take care of shipments on arrival at destination. A coal-zoning plan was also adopted whereby certain areas were forced to obtain coal from near-by mines, thereby eliminating much unnecessary transportation and many crosshauls.

The present emergency has not yet produced similar efforts to eliminate wastes in the transportation business or to obtain more effective use of its facilities.

A fourth problem created by the impact of war is that of maintaining railroad earnings. The first effect of the present defense program, coming as it did after a prolonged depression when the volume of traffic was light, was to increase greatly the traffic and earnings of the railroads. But war usually brings a chain of events that impairs railroad earnings. Increased operating costs, occasioned by increases in prices of fuel, materials and supplies, and by wage increases, narrow the spread between operating revenues and expenses. Fairness to the owners, and the necessity of maintaining railroad credit, may make rate increases necessary.

During World War I the govern-

ment guaranteed the railroads the same annual net railway operating income that they had earned on the average in the three preceding years. After a 25 per cent increase of freight rates in 1918, the government, because of the probable effect on the cost of living, deliberately refused to make further increases in rates. It preferred to use funds from the United States Treasury in making up the deficit in guaranteed income rather than take any action which would further increase prices.

Since the present defense program got under way, the railroads have been forced to increase wages. Passenger fares have already been advanced, and, at the time of writing, a proposal to increase freight rates to meet the increased operating costs is before the Interstate Commerce Commission.

In World War I the government, as we have noted, took over the operation of railroads. No steps have been taken toward this end in the present emergency. The President has set up the Office of Defense Transportation to help the industry meet the demands which war will place upon it. There are differences between the present situation and that which existed in 1917 which may mean that the government will not find it necessary to take over the operation of the railroads. Among these may be mentioned the additional types of transport that were not in existence in 1917. Highways and motor vehicles, inland waterways and barges, pipe lines, and air transport are now available to take part of the load off the railroads. To be sure,

there is less railroad equipment than in 1917, but cars and locomotives are larger, and railroads operate with greater speed and efficiency. Efforts have been made by the railroad industry, furthermore, to avoid some of the difficulties which caused a breakdown of the transportation system in 1917. Lastly, the Interstate Commerce Commission has certain emergency powers which it did not possess in 1917. These include the power, in time of emergency, to require the pooling of cars and locomotives regardless of ownership, the power to require the joint use of terminals, and the power to establish preferences or priority in the shipment of freight, or to declare embargoes.

On the other hand, there are

similarities between the situation today and that in 1917 which may lead to difficulty. The railroads are not operated as a single system as in 1917, but as a congeries of independent railroads, big and little, competing with each other and not inclined to submerge their individual rivalries, jealousies, and animosities. This makes most difficult the task of organizing the transportation industry to meet the demands of war. If, in the depression period, the efforts of the government to bring about a more economical organization of the railroad industry through consolidation or through cooperative action had been successful, the railroads would be in a better position today to meet the emergency without drastic government interference.

The Consumer in the Defense Era

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AFTER months of doubt, we are now faced with the realities of warfare. We are at war with the Axis. We are in the midst of preparations for total defense, which means that each and every one of us has a job which must be done. Ahead there lies sacrifice for us all. As intelligent consumers we should survey the situation which is to affect us so closely and vitally. Production—increased and expanded—is the keynote of the situation, but in order to facilitate the productive forces the place of con-

sumption in our economic setup must be studied.

President Roosevelt says that it is not correct to apply the term "sacrifice" to our present effort. The United States does not consider it a sacrifice to do all that one can—to give one's best to this nation when the nation is fighting for its existence and its future life. But "doing without," whether it is called dep-

*Acknowledgment is made to Angelene Helleberg, Assistant in Home Economics, who assembled certain materials for use in this paper.

rivation, sacrifice, or by any other name, will be necessary for national defense. However, it must not endanger the health or efficiency of the American people.

Miss Harriet Elliott, formerly head of the Consumer Division in the Office of Price Administration, stresses in all her statements that, "Human welfare in a total defense program is equally important with guns and tanks. People who are ill fed, ill clothed, and ill housed are a liability to the nation at any time and in a time of emergency this is doubly true."¹

Before examining the relation of consumption and production in a war economy we should have a clear concept of the nature of consumption. Consumption is technically defined as the utilization of goods and services, but, through popular usage, it has become almost synonymous with the idea of individuals buying in retail markets for their own or immediate family use. Buying—particularly wise buying—is far more complicated than it would appear from casual observation. It involves selection or choice determination. In order to obtain maximum total utility from all economic goods possessed, the individual is forced to balance the utilities of the various items. This he can do only by the careful selection and evaluation of prospective purchases. In addition, the consumer must consider other factors in making his choices—the amount of his income, the amount of time at his disposal, and his own energy, physical and mental. The maximum total utility

is obviously not obtained if the individual uses a disproportionate amount of energy or time in the acts of selection and purchase. Consumption, however, is concerned with more than this. What use is made of economic goods once they are in the hands of the actual consumer? How careful or how wasteful is the individual? The answers to these questions are of vital importance in times of national emergency when productive forces engaged in consumer goods industries must be greatly reduced.

In attempting to designate the position of the consumer in a world gone mad, a world involved in militarism and its consequent destruction, a world emphasizing production and more production of war materials, we find a twofold relationship. First, the effect of war enterprise upon a normal consumer life, and, second, the importance of consumer behavior on the successful outcome of a program of war production.

The first small warning of things out of the ordinary comes to the consumer in the form of higher prices. The increases are small at first, but become larger and larger, first in one field and then in another, until finally general inflation ceases to be a dreaded spectre and becomes a stark reality. As the war progresses and more productive power is directed toward it—as economic efforts gradually become "all out"—

¹Institute for Consumer Education, *Defense and the Consumer* (New York: Public Affairs Committee, Inc., Consumer Series No. 3, Public Affairs Pamphlets, No. 54, 1941.)

the consumer finds himself in the final stage of the disruption of his normal life. He is faced with an actual shortage of commodities and finds himself becoming involved in the maze of red tape surrounding a system of rationing.

What is inflation and why is it such a threat to the welfare of consumers? Inflation has been popularly defined as an increase in money or credit in circulation without a proportional increase in the quantity of goods offered for sale, the result usually being a sudden and general rise in prices. A distinction must be made, however, between an ordinary rise in prices and inflation. A gradually increasing price level ushers in a period of prosperity with expanding employment, higher levels of living, and an increasing demand for consumer goods. Producers respond by turning out more and more goods for consumers.

In a period of inflation, however, this does not happen. Instead of more consumer goods there are fewer, because producers are occupied in the creation of defense materials and in general have more of that business than they can handle. At the same time the purchasing power, or capacity of consumers to buy, is being increased by higher wages and greater employment. In other words, if four of each eight hours of productive effort are spent on military goods, then consumers have eight hours' wages with which to buy only four hours' production. The supply of goods on the market is likely to be still further depleted by the operations of hoarders and professional

speculators, the latter buying at low prices with the intention of holding to sell at future inflationary peaks. The natural result of this combination of circumstances is a bidding up of prices.

Price control is not to be feared as undemocratic. Regulatory measures were attempted in this country during World War I, but without much success because the cost of living had nearly doubled before the situation was recognized. In a capitalistic society during normal economic conditions, competition among producers to supply the market tends to drive prices down to the point of lowest production cost. In times of war emergency, this competition is temporarily suspended while producers devote their energies to filling war orders. This automatic regulation must be replaced by some form of conscious control, and it seems to be the duty of a democratic government to take steps toward protecting the people as a whole against an economic situation in which they are helpless, and also from the predatory activities of a few profiteers.

In addition to the lowering of levels of living by inflationary prices there is the problem of a reduction in the quality of consumer goods. The deterioration in quality caused by substitution of inferior materials and indifferent workmanship is often not immediately recognized by the consumer. But this lowered quality nevertheless is an important factor in reducing levels of living. If, for example, shoes become shabby and out of shape before their time because of the use

of paper and other leather substitutes in their manufacture, they are a drain on individual income. They must be replaced, sooner than would have been normally expected, by another pair which may be equally inferior. This will have the effect of greatly increasing consumer demand for shoes—perhaps even doubling it—with the undesirable direction of productive energy and resources away from war industries into the manufacture of civilian shoes. Such cuts in quality were familiar in World War I, and there is some evidence that they are beginning to occur at the present time in several lines of consumables, particularly in clothing, textiles, and mechanical goods. If this tendency is to be curbed and the public not to suffer extensively, the government will have to step in and institute some measure of control, probably by enforcing the use of standards and grading. This also seems to be an opportune time to extend the system of informative labeling to all lines of consumer goods in which it is practicable.

The final phase of limiting consumption to the level dictated by military necessity is rationing. Rationing is resorted to only when there is an acute shortage or threatened shortage in the supply of consumer goods, caused either by a complete severance from the source of raw materials or by the need of those raw materials for defense purposes. If battles are being fought in countries that normally supply these materials, or if transportation systems are disrupted because of military operations, we

can expect an almost complete cessation of supplies and a drastic curtailment in the production of consumer goods derived from these materials.

Rationing may be accomplished in two ways—first, by limiting total expenditures; second, by rationing specific commodities. Because of administrative complexities, the former method has not been received with much favor. When limitation of supplies has made it necessary, direct rationing of specific commodities has been resorted to, but with indifferent results. When rationing is adopted in one market, if similar measures are not taken in related markets crises may occur in those markets. This is particularly true if substitute and complementary goods are involved, such as sugar and other forms of sweetening, or automobiles and tires.

Furthermore, priority and rationing systems frequently result in much waste. Potential buyers, alarmed by possible deficiencies, exaggerate their needs. Available supplies may completely disappear when there is hoarding by both consumers and middlemen. In order to succeed, a rationing program must be clearly related to the monetary and fiscal programs and stringent measures for the control of hoarding and evasion must be put in force.

Having sketched briefly here the influence of war efforts upon consumer life, it remains to demonstrate what consumers can do individually and collectively to further the "all out" defense program. In December, 1941, Miss Elliott pro-

posed a consumer pledge for total defense. This pledge stressed three points of conduct on the part of the individual, namely, (1) buying carefully, (2) taking good care of goods already owned, and (3) wasting nothing. Just what does each of these points include? What interpretations and amplifications can be put upon each of them?

The first pledge—to buy carefully—might include any number of injunctions. The consumer is warned here to be on guard against the lowering of quality in articles on the market. Sometimes such deterioration in quality may be disguised as in the case of the shoes previously mentioned. The consumer may be of great help in providing for his own protection by insisting on information about the goods he is buying through labeling, well informed salespeople, and informative advertising. If the consumer will consistently make use of government grades wherever possible, he will do much toward eliminating waste in unnecessary variety and duplication. The consumer is also counseled to buy normally—not to hoard or speculate—and to question what appear to be undue price increases.

The second pledge—to take care of what one already possesses—is aimed at the inherent recklessness and carelessness of American people. The life of most goods can be prolonged many times if such simple things as laundering directions and manufacturer's instructions as to use and care of articles are observed.

The third pledge—to waste nothing—might be expanded to include learning about substitutes and using them to further the dual aim of saving the individual's money and conserving strategic supplies. With planning and foresight, consumers can make better use of services available. As an example, consumers could make savings and minimize congestion in transportation and storage facilities if they would plan ahead to purchase their coal supply in advance of the winter rush.

Finally, consumers might be given the general advice to believe in the nation's capacity to produce what consumers need, to support all efforts to get idle resources into use, to cooperate with fellow consumers, and to support and use government agencies set up to help consumers.

United States Trade with Latin America

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HISTORICALLY, the trading interests of United States citizens rank among the earliest factors involved in our national interest in Latin America. The purpose of this article is to examine the changes in our trade with Latin America over a period of years, noting both how our share of that trade has changed and what commodities are its chief components. The discussion will be confined to trade relations between the United States and Latin America, excluding any study of their relative position in the world markets as competing sources of the same commodities.

It should be observed, at the start, that in making comparisons of international movements of trade, difficulties arise as to (1) changing prices, and (2) diverse monetary units. For the purposes of this study, data presented by either the United States Bureau of Foreign and Domestic Commerce or the Statistical Division of the Pan-American Union serve as the basis of all quantitative or comparative analyses which follow, unless other references are given.

United States trade with Latin America was in a strong position throughout the first half of the nineteenth century. During and after the Civil War, however, ground was lost in the contest with Great Britain, France, Germany,

and, to a lesser extent, Italy. Alarm over our decreasing share of trade with Latin America was directly responsible for the sending of a commercial mission to tour the area in the middle eighties. A statistical summary of the trade during the latter part of the nineteenth century shows that in 1865 the United States sent to Latin America goods valued at \$80,176,000 and received imports from the area worth \$66,280,000. By 1890 the value of our exports to Latin America was \$90,532,000 and that of imports from the area \$198,754,000.

During 1913, the last year before World War I, one-fourth of all Latin American imports, valued at \$1,321,861,000, originated in the United States. This country was also a good customer of our neighbors to the south, taking \$1,552,751,000 worth of their exports, or 30.8 per cent. A comparison of these proportions might lead to the assumption that since we were receiving more goods than we were sending, our balance of trade with the area was "unfavorable," but such an opinion does not seem justified from an economic point of view.

One obvious comment may be that because we trade with the entire world, no accounting with one area can be complete. By way of illustration, the balance of a business concern would not be regarded

as "unfavorable" because the account with the coal company supplying fuel showed a net outflow of money payments. Furthermore, it may be necessary to include in the final balancing of accounts—before drawing an "unfavorable" conclusion—a reckoning of capital-account movements, and other transactions often referred to as "invisible" items. Surely, a stockholder in the United States Steel Corporation would be pleased to see United States Steel "export" (i.e., sell) more steel. The same would be true of a shareholder in a Chilean nitrate corporation, although in the latter case the product has to create for him, if he lives in the United States, something which can be converted from Chilean money into United States dollars. One way to do this is to sell nitrate in the United States, that is, build up an "unfavorable" balance, although to the shareholder the result would be the same if the nitrate, or any other Chilean goods, were sold anywhere outside his country.

One more observation seems desirable before examining the trend of trade after 1913. That is the fact that the exports of the Latin American countries are in reality the source from which springs their purchasing power to take goods from the United States. Foreign exporters receive payment which is either in the form of United States purchasing power (i.e., dollar exchange) or in a form which can be converted into dollars. Thus, the more Latin Americans sell, the more they, or others, are able to buy from us. Imports, then, beget

exports, and our export trade depends upon our willingness to increase the volume of trade, imports as well as exports.

Continuing our consideration of the trend of trade, we find that for the period 1913-1919, both the value and the volume of Latin American exports at first fell (1914), and then rose well above the 1913 figures. By 1919, there had been a 100 per cent increase in value over 1913. The United States increased its share of these exports from 31 per cent to 45 per cent; the peak, which was reached in 1917, was more than 50 per cent.

Imports by Latin America increased less than did exports, and the change started later. Until 1917 imports were less than in 1913, but from that year through 1919 so great an increase occurred that at the end of the period imports were 50 per cent greater than in 1913. Imports from the United States declined in 1914, but from then on increased. By 1919 there had been a 200 per cent increase over the 1913 figures. The share of the United States in the trade was one-fourth in 1913, and more than one-half in 1919.

After World War I, trade with Latin America increased until the year 1929. In that year the total of imports from those countries was nearly \$2½ billions, and our exports to them had expanded to just short of \$3 billions. Although a large expansion in dollar amounts had occurred, our relative position in Latin American markets was not so strong as in the War years. We were supplying only 38.4 per cent

of their imports and taking 33.9 per cent of their exports.

Generalizations about so large a trade area as this are likely to lead to misunderstanding. The actual situation can be shown much more clearly if the Northern and Southern groups of Latin American republics are treated separately. The Northern group includes Mexico, Guatemala, Salvador, Honduras, Nicaragua, Costa Rica, Panama, Cuba, Dominican Republic, and Haiti. The Southern group consists of the ten republics situated on the continent of South America.

For the Northern group, 62.1 per cent of all their imports were purchased in the United States, whereas the Southern group bought only 31.4 per cent of their total in this country. The difference in export figures is even more striking, 62.4 per cent for the Northern group, and 24.9 per cent for the Southern republics. In the case of the Northern group this position has remained fairly stable during recent years. Figures for 1938—the last full year before the present war—show that the United States sold 60.6 per cent of all foreign goods purchased by these countries and took 67.9 per cent of their total exports.

The variation in the trade of the Southern group with the United States offers a decided contrast to the above percentages. In 1936 this group was purchasing only 22.5 per cent of its imports in the United States, and the figure had risen to only 27.3 per cent by 1938. The principal compensatory change in the data seems to have occurred in trade with Germany; that country

accounted for 11.6 per cent of the total of imports into the Southern group of republics in 1929, but by 1938 its share had increased to 17.5 per cent. It might also be noted that the United Kingdom's share of their import trade had been approximately 17 per cent in both 1929 and 1936, but by 1938 had fallen to 13.8 per cent.

These same three nations were also involved in the changed destination of exports. The share of the United States in the export trade of the Southern group had been reduced to 20.3 per cent by 1938, and the United Kingdom had also lost some ground. In contrast, Germany's share (only 8.4 per cent in 1929) had showed a steady growth throughout the years 1936-38, reaching 11.7 per cent in the last year of the period. It seems evident that during these years Germany had greatly strengthened her position both as a source of supply for the Southern group and as a customer of theirs, and that she had done so by displacing the United States in both capacities.

One factor which trade with both these groups had in common was that the value of both exports and imports during this period of the late thirties was considerably below that for the year 1929. The total of all Latin American exports in 1938 was \$1,758 millions and imports amounted to \$1,374 millions. Trade with the United States in that year accounted for \$485 millions in exports and \$564 millions of imports. In short, the dollar value of such trade in 1938 was

TABLE I
LATIN AMERICAN TRADE WITH THE UNITED STATES, 1937-1939
(millions of dollars)

	1937		1938		1939		Jan.-Aug., 1939	
	Value	Per-centage to 1936	Value	Per-centage to 1937	Value	Per-centage to 1938	Value	Per-centage to 1938*
Exports to United States								
Northern Republics.....	\$283.0	119	\$222.7	79	\$231.5	104	\$157.5	96
Southern Republics.....	422.0	145	262.6	62	317.3	121	191.0	112
Imports from United States								
Northern Republics.....	321.1	123	264.4	82	304.0	115	180.0	103
Southern Republics.....	318.4	156	299.7	94	329.4	110	187.8	93

Source: Adapted from data prepared by United States Bureau of Foreign and Domestic Commerce.
*Jan.-Aug., 1938.

approximately one half the 1929 figures.

It should be observed, however, that the year 1938 was the worst of the three-year period, 1937-39, so far as commerce with the United States was concerned. Table I indicates both the dollar value of trade and its percentage to that for the preceding year. These figures are shown separately for the Northern and Southern groups, for both exports and imports.

The only further comment concerning the analysis will be to note that figures for the first eight months of 1939 are shown, as well as those for the entire year. Because of the outbreak of war in September, 1939, these January-August figures may be more significant than those for the entire year.

In examining our trade relations, we are interested not only in the totals of what we buy from, and sell to, Latin America, but also in the particular products involved.

Analysis of the products entering this trade discloses the fact that of all Latin American exports in 1938, approximately 55 per cent consisted of petroleum, coffee, meats, sugar, and copper. If we add to these five commodities only fifteen others (see Table II), more than 88 per cent of the total is accounted for.

The figures for our share of petroleum and copper should probably be adjusted. The bulk of Latin American petroleum exports in 1938 went from Venezuela to the Netherlands West Indies, and from there was re-exported to the United States, the United Kingdom, and the Netherlands. Thus, if ultimate destination is taken into account, the United States share amounts to 30 per cent. A correction should be made for copper, because practically all of this metal which was exported from Latin America and came to this country was re-exported after refining. Thus, the 35 per cent shown is a much larger proportion than

TABLE II
EXPORTS OF 20 LEADING COMMODITIES FROM 20 REPUBLICS OF LATIN AMERICA (1938)
(thousands of dollars)

Commodity	Exports		
	Total	To United States	Percentage United States to Total
Petroleum.....	\$317,361	\$ 36,807	12
Coffee.....	233,501	133,533	57
Meats.....	124,137	5,748	5
Sugar.....	115,704	83,382	72
Copper.....	106,659	36,860	35
Wool.....	92,187	7,140	8
Cotton.....	76,535	1,580	2
Metals (except copper and tin).....	73,066	30,781	42
Hides and skins.....	62,539	14,941	24
Wheat.....	61,438		
Linseed.....	59,572	15,348	26
Corn.....	59,299		
Nuts, waxes, oils, etc.....	37,739	19,649	52
Cereals (except wheat, corn, linseed).....	32,059	1,192	4
Nitrate.....	31,478	12,591	40
Bananas.....	28,139	22,249	79
Tin.....	24,793	401	2
Cabinet woods.....	21,705	5,087	23
Cocoa.....	21,672	14,464	67
Fibers.....	9,069	5,640	62

Source: Department of Commerce.

actually came to the United States as a permanent market.

Venezuela has already been noted as the chief source of the petroleum exports. Chile supplies 76 per cent of the copper; when the 13 per cent contributed by Peru is added, this West Coast area accounts for 89 per cent of the total. Chile is also the sole source of the nitrate exports from Latin America.

Brazil supplies 57 per cent of the coffee and 57 per cent of the cocoa which is exported by Latin America to the United States. She is also the source of 71 per cent of the nuts, waxes, and oils thus exported, though it should be noted that the United States obtains 83 per cent of her imports of these commodities

from sources other than Latin America.

Further investigation discloses that several of the other commodities listed in Table II are produced chiefly in the Southern group. Among them are some of which the United States takes a significant share of the exports, namely, hides and skins, linseed, nitrate, and forest products. Of the products exported chiefly to other areas, some (meats, cereals, wool, cotton, tin, corn, and wheat) also originate largely in South America. Corn and wheat may be dismissed as of no significance in Latin American export trade to the United States. Meats, cereals, and wool are produced chiefly in Argentina, but go largely

to European markets. Brazil supplies most of the cotton (70 per cent), but Peruvian cotton (18 per cent) is of a long-staple variety which can be substituted for the Egyptian product. Bolivia accounts for 95 per cent of the tin exported from Latin America, but, as may be noted in Table II, only 2 per cent comes directly to the United States. Ninety per cent of the tin imported by us has come from British Malaya and the Netherlands East Indies. One reason is that since 1923 the United States has had no tin smelting industry; at present, however, a smelter which will process Bolivian ore is being constructed in Texas. Also, there seemed to be no necessity for disturbing British and Dutch control of the tin industry.

Mexico, Central America, and the West Indies are the chief sources of sugar, metals other than copper and tin, and bananas. These accounted for nearly 90 per cent of the value of all exports from this area in 1938. The principal metals included in the above category are lead, tungsten, antimony, manganese, chrome, zinc, and platinum, all of which, it may be noted, are on the list of strategic or critical materials. The amount of rubber exported from Latin America in 1938 was negligible, only 2 per cent of world supply.

Latin American imports in 1938 totaled \$1,374 millions. Products coming from the United States accounted for \$448 millions, or 32.6 per cent of the total. However, it is important to note that Germany supplied 15.3 per cent, and the rest of Europe, 30.1 per cent. Thus, the area depended upon Europe for 46

per cent of the total imports, or \$632 millions.

A breakdown of the import trade shows that the Southern group took nearly \$1,112 millions, or approximately four-fifths of the total. In this area the United States position was relatively weak, since less than 25 per cent of the imports came from the United States. On the other hand, the Northern group depended upon the United States for more than 60 per cent of their total foreign purchases of \$262 millions. It is natural to expect the import trade over such a wide area to include a great variety of commodities. The amazing characteristic, however, is the fact that for the entire Latin American trading area 9 commodity groups accounted for more than 70 per cent of total imports in 1938. Ranked in order of their dollar value, these were: (1) machinery; (2) foods and beverages; (3) iron and steel, and manufactures thereof; (4) cotton and cotton goods; (5) petroleum products; (6) chemicals and pharmaceuticals; (7) automobiles and other vehicles; (8) paper pulp, and paper products; (9) metals, other than iron and steel.

The United States is represented in all of these groups. Machinery, vehicles, metals and their manufactures are of especial significance in the Latin American imports from this country. In 1938 they accounted for nearly 55 per cent (\$266 millions) of the total value of merchandise sent from the United States to the area. This may appropriately be compared with the nature of Latin American exports to our country. Of all these, in 1938, ap-

proximately 62 per cent (\$276 millions) was in the group of vegetable food products and beverages (mostly coffee, sugar, bananas, cocoa, and molasses).

In the foregoing description attention has been directed largely to the proportion and type of Latin American exports and imports accounted for by trade with the United States. If the Latin American share of our export and import trade is considered, Latin America took, in 1938, slightly less than one-sixth of United States exports, and accounted for nearly one-fourth of the imports for consumption. In the same year, the United States took over 31 per cent of Latin American exports and supplied over one-third of all the imports. This seems to indicate that any interference with this trade might injure the Latin American nations more than it would the United States, but clearly any shrinkage in trade will cause loss of purchasing power and a consequent lowering of the standards of living in both areas.

Since the United States is now in World War II, a final statement of the trend of Latin American trade during World War I, as well as the most recent figures on current trade, seems appropriate. It will be recalled that during the former war the total value of Latin American imports and exports increased and the share of the United States in Latin American trade also increased.

Current developments are somewhat similar. The export pattern differs in the fact that Latin American exports rose at once after September, 1939, but fell off slightly in

1940. The preliminary figure for the latter year is \$1,719 millions. The United States enjoys an increasing share of the trade, taking in 1940 almost 43 per cent of the total, as compared with less than one-third in 1938. Imports have shown a decline, as in the early period of World War I, dropping to \$1,177 millions in 1940. Here again trade with the United States assumes increasing importance, having already reached 53 per cent of the total for that year.

Certain essential differences between present conditions and those existing in 1914 should be noted, however. First, the volume of world trade is less than in 1914, and the economy of several areas has altered. Second, the United States is now a mature creditor nation, and has acquired the bulk of the world gold supply. Third, Latin America is more important in the trade of the United States today than in 1914. Finally, world markets before the outbreak of World War II were restricted far more by government controls than was the case in 1914.

If, as seems likely, Latin American trade with the United States is to become increasingly important to both areas during this war, it would certainly be advantageous to try to avoid having to make the same readjustments which were necessary after 1918. The proposals for general relaxation of trading restrictions, and the pooling of hemisphere resources, advanced at the recent Pan-American Conference, should surely be regarded as steps in the right direction.

Economic History of American Wars

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FROM colonial times to the present the United States has participated in eleven significant declared wars, in addition to two undeclared sea wars and countless Indian affairs. We are concerned here only with wars important enough to merit a declaration of hostilities. Six of them took place over a century ago:

King William's War, 1689-97
 Queen Anne's War, 1702-13
 King George's War, 1744-48
 The French and Indian War, 1754-63
 The American Revolution, 1776-83
 The War of 1812, June, 1812-December, 1814

The first four named were only the American counterparts of almost world-wide struggles between England and France, but the Colonies, especially those of New England, took an active part in them. The six wars lasted an average of 7 years. It is significant in this connection that they all took place before the industrial revolution had begun in America or was very far under way in Great Britain. Making war is also an industry, and when destruction and killing are done by hand or with relatively simple equipment, the task of annihilating the enemy is bound to take more time.

Since the middle of the 19th cen-

tury five more American wars have occurred, namely:

The Mexican War, May, 1846-February, 1848
 The Civil War, April, 1861-April, 1865
 The Spanish-American War, April, 1898-December, 1898
 World War I, April, 1917-June, 1919
 World War II, December, 1941-

By this time the industrial revolution was well under way. The four wars immediately preceding the present one lasted an average of only 2 years. Now that killing and destruction were done by machine methods the gruesome business was accomplished with more dispatch. And if we look at the seven major European wars of the same period, namely, the Crimean War, the three wars by which Prussia founded the new state of Germany, the Turco-Russian war, the Boer war, the Russo-Japanese war, the two Balkan wars preceding World War I, and World War I, we find that their average length also was 2 years. Thus, we may conclude that wars in the last century involving Europe and North America have averaged 2 years in duration. They have ranged in length from 10 months to 4 years in America and from 6 weeks to 4¼ years in Europe. But in the case of conflicts between major rivals, 3 years has been the

more customary duration, and it is notable that no major war since the days of Napoleon has lasted over 4¼ years.

The thoughtful reader may object, however, that this sample of wars is very small in number. The objection is well taken, but fortunately these are all the wars that mankind has provided. As in the analysis of business cycles, only meager data are available. It may also be objected that the present conflict is more comparable to the Napoleonic wars or to World War I; this is also true. The earlier of these lasted some 21 years with only momentary breathing spells; the second and more industrialized war lasted 4¼ years. These figures suggest that even world wars were becoming shorter. Additional reason for believing that the present war will not be a long one may be found in the fact that Germany has been on a partial war footing since Hitler came to power, that Italy fought Ethiopia in 1935, and that Japan has been engaged in China for more than 4 years before the attack on Pearl Harbor. However, hostilities are more apt to be of short duration in places like western Europe, where modern equipment can be employed. Under conditions of extreme cold, such as prevail in Russia, or in tropical jungles where fighting is more on a hand-to-hand basis, they are likely to require more time.

Some generalizations with regard to the frequency of American wars may also be of interest. Since the American Revolution, we have formulated the policies that led to our

wars and have taken part in seven major and minor wars. Those against major rivals like England, Germany, or the Confederacy have lasted longer and the intervals of peace succeeding them have been longer—usually 30 years, or one generation. The periods of peace after the Mexican War and the Spanish-American War were only 13 and 19 years, respectively. Again, when a war was fought on our own soil, more time elapsed before we engaged in another. The American Revolution, the War of 1812, and the Civil War were fought here; the Mexican War, the Spanish-American War, and World War I were waged abroad. The periods of peace following wars fought here average 31 years; the periods of peace after wars fought abroad average 18 years. However, the application of this generalization may be vitiated by the fact that in the future the United States must almost certainly play a more dominant role in keeping peace in an ever smaller world.

American war aims have altered in the last two and one-half centuries, and it seems that our motives have become more honorable. No doubt the economic one is still the most powerful fundamentally, but there appears nonetheless to be more of a leaven of idealism, which is cause for satisfaction. Let us look ever so briefly at the main causes of American wars.

The four colonial struggles involved us because the American colonies were part of the British Empire, which was at that time fighting the French Empire in

Europe, America, and Asia for control of the undeveloped areas of the world. Our colonial ancestors participated enthusiastically only when protection of their homes against attacks by parties of French and Indians was involved. Most of the time the Colonies contented themselves with doing as little as possible, and it is significant that three of the wars were known by the name of the English monarchs under whose reigns they took place—they were regarded to a considerable extent as the sovereign's affair. Imperialistic rivalry was the chief issue.

The American Revolution was fought to regain and enlarge the political and economic liberties the Colonies had enjoyed before George III came to the throne and his ministers tried to pass some of the costs of earlier wars to them. Approximately one-third of the populace favored independence; one-third were loyal to the king; and one-third were indifferent. The "patriots" were less wealthy than the Tories whom they frequently plundered. The conflict was in no sense a unanimous uprising against Great Britain; in fact, talk of "independence" was almost taboo for a year after the Battle of Lexington and Concord.

Equally unpopular was the next war with England, and it is not one in which we may take much pride. There were numerous instances of American sailors being impressed and American ships and cargoes seized and hauled into British ports where they were declared contraband, but it is noteworthy that

despite these affronts the mercantile sections of the country were opposed to the war. It was the land-hungry elements of the West and South—the so-called "War Hawks"—who had visions of acquiring Canada and Florida while England and her allies were otherwise engaged. War was declared by the unimpressive vote of 19 to 13 in the Senate, 79 to 49 in the House. "Mr. Madison's War," as it was called, was particularly disliked in New England, where there was considerable talk of secession from the Union. When the Treaty of Ghent was signed it contained no mention of impressment of sailors.

Only a little less imperialistic was the War with Mexico, which was precipitated when independent Texas decided to join the Union, to the extreme annoyance of Mexico from whom she had won her own independence several years before. By the treaty of peace, this country virtually forced Mexico to sell us large portions of the Southwest which she had refused to sell previously. Many persons in the North regretted these territorial acquisitions, which could only enhance the political strength of the South. The suggestion in Congress in 1846 by David Wilmot of Pennsylvania that slaves be excluded from the new territories accentuated sectional feelings.

The Civil War may be set down as partly imperialistic and partly an attempt to defend a way of life. It was imperialistic in the sense that the South desired to secede because she was about to be denied the use of slaves in the territories, and in

the sense that the North fought to preserve the Union and her newly acquired control of it. It was a war to defend or impose a more democratic way of life in the sense that thousands of abolitionists and negro sympathizers fought to free the slaves and eventually succeeded. But this war also was often unpopular. When a draft law was put into effect in New York in 1863, thousands rioted and vented their anger by hanging some of the handiest negroes. So badly was the war going at one time in 1864, and so strong was the peace faction, that President Lincoln had grave doubts whether he would be reelected.

Likewise the Spanish-American war was fought partly for imperialistic motives and also to defend a way of life. Powerful American sugar interests in Cuba desired a more peaceful administration than Spain was providing and worked to that end. A circulation rivalry in New York between the Hearst and Pulitzer newspapers caused the scandals of Spanish cruelties in Cuba to be magnified and inflamed American public opinion against Spanish colonial administration. At the close of the war the United States kept Porto Rico, Guam, and the Philippines, and granted Cuba partial independence, thus acquiring overseas dominions along with other imperialistic nations of the world. The war itself was not unpopular and came as near to being a holiday as any in which we ever took part.

From the American viewpoint, World War I may be interpreted as almost entirely a war to defend a

way of life—the democratic way of life. It is true that England and Germany clashed because of commercial rivalries, Austria and Russia because of imperialistic rivalries in the Balkans, but this country entered largely because of fear of German domination in world affairs. It was naively but genuinely regarded as a war to end wars and a war to make the world safe for democracy. After it was over we took no territorial spoils and were frankly disgusted at the quarrels of our allies. We would have nothing to do with preserving the peace we had helped to win and withdrew into our hemispheric shell.

Perhaps it is still too early for an impartial examination of our motives in participating in World War II. American, English, French, and Dutch ownership of a vast portion of the world's resources aroused the envy of latecomers to the imperialistic table like Germany, Italy, and Japan; high tariffs made it difficult for the Axis countries to sell goods abroad and thus obtain credits with which to buy from foreign nations; their economic situation became worse and their political envy more acute because of the great depression. Lacking "backward peoples" to colonize, Germany and Italy and Japan commenced absorbing their weaker neighbors. Americans resented their brutal methods and their low international morals which made any sort of agreement with them worthless. The complete conquest of Czechoslovakia a few months after the Munich agreement destroyed all confidence in their promises, and after

England and France declared war on Germany it was only a matter of time before we would be drawn in. But the treacherous Pearl Harbor episode served to unite the nation to a greater extent than could previously have been imagined. Only one member of Congress, a woman pacifist, voted against war with Japan after that occurrence; the America First Committee disbanded, opposition papers changed their tune, and leading opponents of Administration policy offered their services to the government.

In summary, then, our 18th century wars, except for the Revolution, were imperialistic; our 19th century wars were largely so, but idealism was becoming more important; and our 20th century wars have been primarily in defense of an ideal. To fight for a mere rubber supply today would be futile and unimaginative indeed, for within a few years our synthetic rubber output will materially supplement the natural sources.

Another general observation with regard to the wars in which we have taken part is that the nation that is farther advanced industrially usually emerges as victor. This country was obviously stronger than Mexico or Spain; at the time of the Civil War, the North was industrialized and the South agricultural; and in World War I the combined industrial power of England, France, the United States, and others was too great for Germany, Austria, and their satellites. In World War II American ability to build the machines which win modern wars should turn the tide of battle in the

end. According to an article in the February, 1940, *Fortune*, developed electrical and mineral energy in this country provides every man, woman, and child with the equivalent of 153 energy slaves, against which England had 41 before the war, France 35, Germany 27, Italy 25, Russia 11, Japan 4, and China 4. Surely, if we direct this energy wisely, victory should be ours. But our war history teaches another lesson that it is well to remember. England was industrially superior to us both in 1776 and in 1812, and yet she lost. She fought neither war with enthusiasm; in both, her lines of communication were long, and were frequently harried by our privateers, and she was fighting on foreign soil. The analogy could hold for Japan today, if the war is pursued halfheartedly on our part.

If a war is not won decisively, another may have to be fought. Just as most wars contain many battles, so also international rivalries frequently breed several wars. For example, in the 16th century England's great rival was Spain; in the 17th century it was Holland, against whom three wars were waged; in the 18th century it was France, whom England fought six times and whose overseas empire she acquired in large part; in the 19th century it was Russia; and in the 20th it has been Germany. Germany probably would be able to defeat England, but twice she has antagonized the whole English-speaking world as well as some of her continental neighbors. It is very likely that the United States will have to fight Germany again and again, and

perhaps Japan also, if she does not decisively defeat them now.

Wars necessarily disturb the even tenor of millions of lives and lower the standard of living. Thousands and even millions of men are yanked from their peacetime occupations, rushed into the army, and taught now to be soldier boys in dozens of not very easy lessons. Millions more work harder than before in producing munitions and supplies or in satisfying other war-time needs. This is all done hastily and perhaps not so efficiently as might be desired. At the same time people are asked to pay heavier taxes, buy bonds till it hurts, and often obliged to see the purchasing power of their incomes decline.

War is a destructive business, and the engines of destruction themselves have little peacetime value and are amazingly expensive. Big bombers cost \$250,000; one of them is worth a mile of parked cars. Think of that the next time you hear that a flying fortress has been shot down. New destroyers cost \$4,000,000; the money to build five of them would run this University for two years. During both the Civil War and World War I roughly one-fifth of the national income was spent for war purposes; at the beginning of this year President Roosevelt called for the expenditure of \$59 billions, which is probably more than half the national income for the coming year. More recently the Senate has passed a \$26.5 billion naval supply bill calling for nearly 2,000 combat naval vessels and about 25,000 airplanes, to mention two of the chief items. To

build all these is the equivalent of asking the nation to rebuild the entire American railroad system, or to construct 72 Panama canals.

The task is tremendous, but similar undertakings have been accomplished in the past. During World War I, for example, the Emergency Fleet Corporation tripled the number of shipways in a year and a half, and in the month before the Armistice planned 3,116 ships. Parts of some of them were prefabricated as far west as Kansas and then sent east. But all this required organization, economy, sacrifice, and hard work. The program, then, is in two parts. One is increased productive effort and the other is economy through decreased civilian consumption. Let us see what has been done along these lines in the past.

The necessity for increased productive effort increased the tempo of the industrial revolution. The nature of the articles needed has also contributed to the change. Wars require large quantities of standardized equipment. Where factories have not existed, they have sprung up to satisfy the need; where they have existed, more or larger ones have appeared. Blanche Hazard, historian of the shoe industry in New England, has written, "The large orders of shoes for the Union armies, added to the scarcity of labor, caused by the volunteering and drafting of soldiers, were additional important factors in urging the use of machinery in general, and in encouraging the trial of the McKay machine. During the war, the practicability of the McKay

machine run by steam power was demonstrated, and it was widely adopted during the late 60's." To cite another Civil War example: Under pressure from the War Department, the first plants using the Bessemer process of making steel were set up at Albany by the makers of that early type of steel battleship, the Monitor. Let us now turn to World War I for a third example. According to Grosvenor Clarkson, the army alone in 1918 purchased "far more woolen socks than the entire normal production of the United States, twice as many blankets, three times as many part leather gloves; it took all the wool and all the steel." The fame of Bethlehem, Pennsylvania, as a steel center was made during World War I; it grew in a few years from a sleepy town to a thriving city. The Aluminum Company of America doubled its plant capacity, and the American chemical dye industry was born. Automobile production was greatly stimulated, and the building of airplane parts and tractors was put on a mass production basis. Similar results may be expected in World War II; already we have seen airplane building put on the assembly line and an irresistible demand created for synthetic rubber.

Turning now to economy through decreased civilian consumption, we find equally startling accomplishments. Prohibition was an outgrowth of World War I and there was an industrial reason for it—the capacity of the distilleries was needed to make alcohol for smokeless powder. Other examples of plant conversion were carpet facto-

ries making blankets, auto factories making airplanes, horseshoe factories making trench picks, stove plants making hand grenades, corset factories, which normally wasted 8,000 tons of fine steel annually, making instead masks and belts for army medicos, toy plants making packing boxes, pipe organ factories making mosquito nets, electric vacuum factories making airplane motors, and rubber goods factories making gas masks. All private building contracts were put on a license basis if they involved more than \$500 of expenditures. In addition to reducing the output of peacetime products, important advances were made in reducing the number of styles, varieties, sizes, and finishes on many products. Auto tire styles were cut from 287 to 32, buggy wheels from 232 to 4, and pocket knives from 6,000 to 100. And, finally, in the matter of food the nation's Food Administrator, Herbert Hoover, urged the people to have "Meatless Mondays" and "Wheatless Wednesdays," asked them to use more corn and less wheat, more fish and beans and less meat, more syrups and less sugar, and to use no more fats than absolutely necessary. Fats are morale builders, and the lack of them helped destroy Germany from within. As a result of these economies we were able to send three times our peace exports of such products to Europe. Now again we find ourselves called upon to consume less sugar so that we may send a supply to our allies and also use the shipping space for other purposes, and doubtless there

are dozens of other such economies soon to come.

Lack of time prevents illustrating some of the other adjustments called forth by a war economy, but the fundamental ideas can be indicated. Wars interrupt the flow of international trade because of blockades and shipping losses, and this necessitates producing goods at home which ordinarily might be obtained from a specializing nation abroad. Both the American Revolution and the War of 1812 cut us off from our chief source of manufactured goods, England, and hence stimulated manufacturing here sooner than it would otherwise have appeared. The same was true of the South during the Civil War. During World War I interruptions of trade affected us in another way by reviving our most important declining industry, agriculture.

Wars also put a great burden on the transportation system and in so doing point to the need for improvements. In the War of 1812 the Canadians were successful in the West largely because we had no efficient way of getting supplies over the mountains. As a result of this lesson the Cumberland Road was built after the war, from the highest point of navigation on the Potomac to the highest point of navigation on the Ohio and then extended west. During the Civil War the first transcontinental railroad was started to hold California against the Confederacy. And the lack of adequate railway communication in the South was the primary cause of food shortages in certain sections. Out of World War I came

further consolidation of our railroad systems, increased use of automobiles, and important advances in knowledge of airplanes. It is probable that World War II will do much to make the airplane as common and as safe as the automobile is today.

Developments in the labor field parallel those of industry. During World War I laborers in steel and munition plants and many other lines of manufacturing, coal miners, railroad workers, and even unskilled laborers were in great demand and therefore received generous wages; in fact, their real wages actually increased, whereas the need for teachers, ministers, workers in the building trades and many white-collar occupations fell off and the real wages of these workers were greatly reduced. Thus it is seen that, although labor as a whole suffers from war and inflation, certain occupations feel their effect much less.

Two fundamental generalizations may be made in regard to the financial aspects of war. One is that the cost of a war is largely borne by the generation that wages it; the second is that the warring generation has three ways of meeting the cost, or, of course, may use any combination of the three. These are taxation, borrowing, and inflation. The statement that the cost of a war is not passed on to future generations is a startling idea to many. If you doubt it, ask yourself who will receive the war taxes which are to be paid 25 years hence; obviously it will be the holders of bonds who are being paid off, and both taxpayers and bondholders will belong

to that future generation; the government is merely a middleman in the transaction. But the statement is true only from the viewpoint of the generation as a whole, not from that of the individuals in it. Furthermore, future generations do suffer in that much capital which would otherwise have been inherited by the next generation is destroyed or directed to purposes of little peacetime value. You may ask what the present generation does get for what it spends. The answer is the war itself, or rather the protection of its families, its homes, and the way of life of its children, assuming of course that the war is won.

Of these three ways of paying for a war, taxation, borrowing, and inflation, taxation is economically the most desirable because it distributes the burden most fairly. At the other extreme, inflation is the least desirable because it tends to bear hardest on the poor, who are least able to stand it.

Unfortunately our human frailties have caused us to depend on these measures in reverse order. Since taxation takes money from our pockets beyond recall, we resist it; borrowing takes money from us for years, but since it may be regained we instinctively find borrowing somewhat less objectionable; inflation, which reduces real incomes, comes quietly and is at first unnoticed. Besides, everyone feels that perhaps he will be spared, or can hedge against it, or it will not be so bad anyway. Nevertheless, we have learned a little by experience in past wars. Half the cost of the American Revolution was financed by

paper money and very little by taxation; about one-seventh of the Civil War cost was financed by inflation and one-fifth by taxation; and one-tenth of the cost of World War I by paper money inflation and one-third by taxation.

However, the huge bond issues of World War I were floated through the aid of increases in deposit currency amounting to some \$10 billions, and this credit money was not subsequently retired. The Civil War and World War I saw prices about double. To eliminate the danger of credit money inflation this time, the commercial banks were forbidden last June to buy defense bonds and the government has made a strenuous effort to sell bonds to the public and raise money by taxes. Commendable as these efforts are, there is reason to fear that resort to paper money or inflation in deposit currency will be inevitable as soon as the government actually commences to spend the huge sums now being appropriated.

Inflation is already making itself felt: the cost of living rose 11 per cent between June, 1939 and November, 1941, and the end is not in sight. How great the price rise will be depends on how long the war lasts. Much also depends, on the none too healthy state of our finances during the 1930's, when we rolled up a huge national debt, and on our greatly increased gold holdings. A doubling of prices should not be surprising. After all our past major wars, prices have dropped, exhibiting a quick partial decline soon after peace, and a longer fall to the pre-war level within ten or

fifteen years. A similar situation may result again, although it seems less likely this time. Further devaluation and a higher price level as in France and Belgium after World War I seem more probable.

Certain conclusions may be drawn with regard to American wars. They are becoming shorter, but the annual cost of each year of conflict has grown greater with each war, except the Spanish-American war. We engage sooner or later in all major conflicts in which England takes part and each time we enter sooner than before.

We are usually poorly prepared for war. This fact may sometime prove disastrous to us. War equipment is becoming increasingly specialized and mechanized; gone are the days when merchantmen could be quickly converted into a navy or the family fowling piece used as a rifle. The world is becoming smaller; channels, mountains, and oceans afford less protection. The advantage

gained by preparedness and striking first is correspondingly greater. It now requires less time to conquer an enemy with inferior equipment and more time for an unprepared nation to supply itself with modern armaments. Democracies have been slow to recognize that an enemy with superior arms is unimpressed by appeals to reason and lectures on the advantages of peace. It is accordingly difficult to escape the conclusion that the democracies will be defeated in some future war unless a community of nations is formed to preserve world order. Such a world community must possess a police force and include the most powerful industrial nations of the world. This program will be extremely costly and it will necessarily involve the United States in a leading role, but it seems the only safeguard against an eventual annihilation of our way of life, which after all would be far more costly.

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